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Raphael Cassiers

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STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
1100 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

LIU, LIN

ART UNIT

PAPER NUMBER

2445

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/796,210	<b>Applicant(s)</b> CASSIERS ET AL.	
	<b>Examiner</b> LIN LIU	<b>Art Unit</b> 2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-20 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-20 and 22-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This office action is responsive to communications filed on 11/07/2008.

Claims 1-3, 5-20 and 22-27 are pending and have been examined.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/07/2008 has been entered.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-3, 5-20 and 22-27 have been considered but are moot in view of the new ground(s) of rejection.

4. In addition, after carefully reviewing the Applicant's remarks, the follow remarks are the main concerns that Applicant is arguing about.

5. **Argument a:**

On pages 10-13 of Applicant's remark, Applicant mainly argues that Bornemisza and Agarwal fail to teach or suggest "a single byte that comprises *both* an entry number for a header lookup table *and* an unmodified Payload Type Identifier (PTI) copied from the primary header, as recited by claims 1, 20, 24, and 27."

**Response:**

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In addition, it appears that Applicant is paraphrasing the claim language and redefining the scope of the claim without the support from the present specification. In specific, the portion of the claims Applicant argues is:

“wherein said secondary header represents a compressed version of the primary header and includes a single byte comprising an entry number for a header lookup table and an unmodified Payload Type Identifier copied from the primary header;”

However, Applicant allegedly asserts and redefines the scope of the claim to be: ““a single byte that comprises *both* an entry number for a header lookup table *and* an unmodified Payload Type Identifier (PTI) copied from the primary header”, which is not presently supported by the originally filed specification, specifically in paragraphs 0109-0110 of Applicant's Specification:

[0109] For converting the ATM header 200 into a corresponding compressed header 240, the HEC byte 220 is omitted on the part of the header compression unit. The remaining four bytes 210 are converted by means of a header lookup table. In FIG. 3, a header lookup table 300 for performing header conversion is shown, with the header lookup table 300 comprising up to sixteen entries. Each entry comprises a complete ATM header (without HEC byte), whereby the PTI bits are replaced by zeros. Whenever a header compression unit receives an ATM packet comprising an ATM header, the header lookup table 300 is searched for the first four bytes of the data packet's ATM header. **During this search, the PTI bits of the received ATM header are set to zero, and therefore, the values of the PTI bits are excluded when comparing the received ATM header with the entries of the header lookup table.**

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[0110] If the header lookup table 300 contains an entry that matches the received packet's ATM header, the ATM header will further on be identified by the respective entry number. For example, if the four bytes stored in entry 320 match with the first four bytes of the received ATM header, the received ATM header will be identified by the corresponding entry number "3". Said entry number is copied to the data field 250 of the compressed header 240, which comprises bits [3 . . . 0] of the compressed header 240. Bit [4] of the compressed header 240 is set to zero; bit [4] might e.g. be used later on for addressing thirty-two (instead of sixteen) lookup table entries. **The PTI bits [2 . . . 0] of the ATM header 200, which have not been used for accessing the header lookup table 300, are copied without modification to the bits [7 . . . 5] of the compressed header 240.** Hence, the compressed header 240 comprises one byte of header information, with bits [7 . . . 5] containing Payload Type Identification (PTI) bits, and with bits [3 . . . 0] containing an entry number of the header lookup table 300.

It is clearly shown from the above Applicant's disclosure, that the "single byte" is not related to the "unmodified Payload Type Identifier copied from the primary header". Rather it is merely used to index the header lookup table. Therefore, it is only reasonable for the examiner to read this portion of the claim language as:

"wherein said secondary header represents a compressed version of the primary header and **includes** a single byte comprising an entry number for a header lookup table and **the compressed version of the primary header also includes** an unmodified Payload Type Identifier copied from the primary header;"

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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7. Claims 1-3, 5-20 and 22-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

8. Applicant has amended the claim language to include “wherein said secondary header represents a compressed version of the primary header and includes a single byte comprising an entry number for a header lookup table and an unmodified Payload Type Identifier copied from the primary header;” As it is allegedly admitted by Applicant in the remarks filed on 09/22/2008 that such claim language could be read as “a single byte that comprises *both* an entry number for a header lookup table *and* an unmodified Payload Type Identifier (PTI) copied from the primary header”, which is not presently supported by the originally filed specification. Applicant has not pointed out where in the specification, such support can be found.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 1-3, 5-9, 18, 19 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bornemisza et al. (USPAT: US 7,154,895 B1)**.

With respect to **claim 1**, Bornemisza teaches a transmitter unit for transmitting data via a data link (Bornemisza, fig. 2), said transmitter unit comprising:

a header compression unit adapted for converting a primary header of a data packet into a corresponding secondary header (Bornemisza, fig. 6a, col. 7, lines 29-65 and, col. 10, lines 35-53, noted the original ATM header is compressed into a compressed ATM header), with said primary header being related to said secondary header in one-to-one correspondence (Bornemisza, fig. 5a-5c, and col. 7, lines 29-65);

wherein said secondary header represents a compressed version of the primary header (Bornemisza: col. 7, lines 33-38, noted the encoded version) and includes a single byte comprising an entry number for a header lookup table (Bornemisza: Tables 2& 3, and col. 9 line 55 to col. 10 line 25).

wherein said transmitter unit is adapted for transmitting a modified data packet via said data link, said modified data packet comprising said corresponding secondary header (Bornemisza, fig. 2, col. 9, lines 55-67, and col. 10, lines 35-61).

However, Bornemisza does not explicitly teach a method of copying an unmodified Payload Type Identifier from the primary header in the above embodiment.

In the same field of endeavor, Bornemisza in another embodiment teaches a method of copying the original Payload Type Identifier from the primary header (Bornemisza: col. 6, lines 54-56: "noted that another non-limiting example for stateless compression provides that three bits may carry the original PTI bits.").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify different embodiments of Bornemisza's invention to include the features of copying the original PTI bits from the primary header to the modified version of the packet header with the motivation of spending the computing resource in modifying the PTI values and saving the computing resource for other tasks and rendering a resource efficient system.

With respect to **claim 2**, Bornemisza teaches the transmitter unit of claim 1, wherein said data packet is an ATM cell, and wherein said primary header is an ATM header (Bornemisza, fig. 5a-5c, and col. 10, lines 50-53).

With respect to **claim 3**, Bornemisza teaches the transmitter unit of claim 1, wherein said data link is part of an access network, in particular of an xDSL network (Bornemisza, title, abstract and, col. 10, lines 26-35).

With respect to **claim 5**, Bornemisza teaches the transmitter unit of claim 1, wherein the size of said secondary header is substantially smaller than the size of said primary header (Bornemisza, fig. 5A-5C, col. 5, lines 43-50, and col. 7, lines 29-60).

With respect to **claim 6**, Bornemisza teaches the transmitter unit of claim 1, wherein said header compression unit is adapted for converting said primary header in real-time (Bornemisza, fig. 6A-6B, and col. 10, lines 26-54).

With respect to **claim 7**, Bornemisza teaches the transmitter unit of claim 1, wherein said header compression unit is adapted for removing redundancy check bits that are part of said primary header (Bornemisza, fig. 6A, and col. 5, line 43 to col. 6, line 30).



With respect to **claim 8**, Bornemisza teaches the transmitter unit of claim 1, wherein said header compression unit is adapted for copying a predefined part of a bit sequence for said primary headers to said corresponding secondary header without any modification (Bornemisza, fig. 5A-5B, col. 7, lines 29-65).

With respect to **claim 9**, Bornemisza teaches the transmitter unit of claim 1, wherein said header compression unit is adapted for assigning, whenever a previously unknown primary header is encountered for the first time, a secondary header to said primary header (Bornemisza, fig. 6A-6B, col. 10, lines 26-53).

With respect to **claim 18**, Bornemisza teaches the transmitter unit of claim 1, wherein said secondary header comprises extra bits that are used for transmitting control information (Bornemisza, col. 9, table 3, and col. 10, lines 19-25).

With respect to **claim 19**, Bornemisza teaches the transmitter unit of claim 1, wherein said secondary header comprises extra bits for accommodating count values required for transmitting said modified data packet in an inverse multiplexing mode (Bornemisza, col. 9, table 3, and col. 10, lines 19-25).

In regard to **claim 24**, the limitations of this claim are substantially the same as those in claim 1. Therefore the same rationale for rejecting claim 1 is used to reject claim 24. By this rationale **claim 24** is rejected.

In regard to **claim 25**, the limitations of this claim are substantially the same as those in claim 7. Therefore the same rationale for rejecting claim 7 is used to reject claim 25. By this rationale **claim 25** is rejected.

In regard to **claim 26**, the limitations of this claim are substantially the same as those in claim 8. Therefore the same rationale for rejecting claim 8 is used to reject claim 26. By this rationale **claim 26** is rejected.

11. Claims 1, 5, 10-17, 20, 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Agarwal (USPAT: US 6,963,570 B1)** in view of **Bornemisza et al. (USPAT: US 7,154,895 B1)**.

With respect to **claim 1**, Agarwal teaches a transmitter unit for transmitting data via a data link (Agarwal, fig. 2A), said transmitter unit comprising:

a header compression unit adapted for converting a primary header of a data packet to be transmitted into a corresponding secondary header (Agarwal, fig. 5A-5B, col. 11, lines 26-60), with said primary header being related to said secondary header in one-to-one correspondence (Agarwal, fig. 5A-5B, col. 11, lines 26-60);

wherein said secondary header represents a compressed version of the primary header (Agarwal: col. 12, lines 3-25) and includes a single byte comprising an entry number for a header lookup table (Agarwal: col. 12, lines 3-25);

wherein said transmitter unit is adapted for transmitting a modified data packet via said data link, said modified data packet comprising said corresponding secondary header (Agarwal, fig. 2A, 5A-5B, col. 7, lines, 19-64 and col. 11, lines 26-60).

However, Agarwal does not explicitly teach a method of copying an unmodified Payload Type Identifier from one header to another.

In the same field of endeavor, Bornemisza teaches a method of copying an unmodified Payload Type Identifier from one header to another (Bornemisza: col. 6, lines 54-56: "noted that another non-limiting example for stateless compression provides that three bits may carry the original PTI bits.>").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of copying an unmodified Payload Type Identifier from one header to another as taught by Bornemisza in Agarwal's invention in order to save the computing resource for other tasks and creating a resource efficient system.

With respect to **claim 5**, Agarwal teaches the transmitter unit of claim 1, wherein the size of said secondary header is substantially smaller than the size of said primary header (Agarwal, fig., col. 11 lines 25-40).

With respect to **claim 10**, Agarwal teaches the transmitter unit of claim 1, wherein said header compression unit comprises at least one lookup table (Agarwal, fig. 6A and fig. 8A), with said lookup table being accessed for converting said primary header, or a part thereof, into said corresponding secondary header, or a part thereof (Agarwal, fig. 6A and fig. 8A, col. 11, lines 42-61).

With respect to **claim 11**, Agarwal teaches the transmitter unit of claim 10, wherein said header compression unit is adapted for creating, whenever said secondary header is assigned to a previously unknown primary header, a corresponding entry in said lookup table (Agarwal, fig. 6A, col. 11, line 42 to col. 12, line 25).

With respect to **claim 12**, Agarwal teaches the transmitter unit of claim 10, wherein an entry of said lookup table comprises header information for relating said primary header, or a part thereof, to said corresponding secondary header, or a part thereof (Agarwal, fig. 6A,8A, col. 11, lines 42-60 and col. 12, line 61 to col. 13 line 2).

With respect to **claim 13**, Agarwal teaches the transmitter unit of claim 10, wherein an entry of said lookup table comprises said primary header, or a part thereof, whereby said corresponding secondary header, or a part thereof, is represented by the respective entry number (Agarwal, fig. 6A,8A, col. 11, lines 42-60 and col. 12, line 61 to col. 13 line 2).

With respect to **claim 14**, Agarwal teaches the transmitter unit of claim 10, wherein said header compression unit is adapted for searching said lookup table for an entry that matches with said primary header of said data packet to be transmitted, or with a part thereof, and for fetching, in case of a match, said corresponding secondary header, or a part thereof (Agarwal, col. 12, lines 4-25, col. 13, lines 4-19).

With respect to **claim 15**, Agarwal teaches the transmitter unit of claim 1, wherein said transmitter unit is adapted for transmitting update information packets via said data link, with said update information packets comprising update information for updating at least one lookup table on the part of a receiver unit (Agarwal, fig. 10A-10B, col. 14, lines 38-63).

With respect to **claim 16**, Agarwal teaches the transmitter unit of claim 15, wherein each time a new entry in said at least one lookup table is created, an update

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information packet comprising header information of said entry is transmitted (Agarwal, fig. 10A-10B, col. 14, lines 38-63).

With respect to **claim 17**, Agarwal teaches the transmitter unit of claim 15, wherein said update information comprises one or more secondary headers, or parts thereof, and for each of said secondary headers, a corresponding primary header said secondary header has been assigned to, or parts thereof.

With respect to **claim 20**, Agarwal teaches a receiver unit for receiving data transmitted via a data link (Agarwal, fig. 7, col. 12, lines 36-52, receiver interface), said receiver unit comprising:

a header decompression unit adapted for converting a secondary header of a modified data packet received via said data link into a corresponding primary header (Agarwal, fig. 7, lines 36-60), with said secondary header being related to said primary header in one-to-one correspondence (Agarwal, fig. 4-5, col. 10, lines 51-64, and col. 11, lines 26-40);

wherein said secondary header consists of a single byte comprising an entry number for a header lookup table (Agarwal: col. 11 line 42 to col. 12, line 25).

In the same field of endeavor, Bornemisza teaches a method of copying an unmodified Payload Type Identifier from one header to another (Bornemisza: col. 6, lines 54-56: "noted that another non-limiting example for stateless compression provides that three bits may carry the original PTI bits.").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of copying an unmodified Payload

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Type Identifier from one header to another as taught by Bornemisza in Agarwal's invention in order to save the computing resource for other tasks and creating a resource efficient system.

In regard to **claim 24**, the limitations of this claim are substantially the same as those in claim 1. Therefore the same rationale for rejecting claim 1 is used to reject claim 24. By this rationale **claim 24** is rejected.

1. In regard to **claim 27**, the limitations of this claim are substantially the same as those in claim 20. Therefore the same rationale for rejecting claim 20 is used to reject claim 27. By this rationale **claim 27** is rejected.

12. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Agarwal (USPAT: US 6,963,570 B1)** in view of **Bornemisza et al. (USPAT: US 7,154,895 B1)** and further in view of **Rosengard (USPAT: US 6,760,345 B1)**.

With respect to **claim 22**, the combined method of Agarwal-Bornemisza teaches all the claimed limitations, except that they do not explicitly teach a method of performing a cell delineation by counting the bytes received by said receiver unit.

In the same field of endeavor, Rosengard teaches a method of performing cell delineation by counting the bytes received by said receiver unit (Rosengard, col. 10, lines 5-21, and col. 12, lines 9-40).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of performing cell delineation by counting the bytes received by said receiver unit as taught by Rosengard in Agarwal-

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Bornemisza's invention in order to efficiently reconstruct the compressed header (Rosengard, col. 12, lines 9-24).

In regard to **claim 23**, the limitations of this claim are substantially the same as those in claim 22. Therefore the same rationale for rejecting claim 22 is used to reject claim 23. By this rationale **claim 23** is rejected.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LIN LIU whose telephone number is (571)270-1447.

The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm, EST.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess can be reached on (571)-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lin Liu/  
Examiner, Art Unit 2445

/Patrice Winder/  
Primary Examiner, Art Unit 2445